

WHAT IS CLAIMED IS:

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1. A copyright protection method comprising the steps
of:

adding, on a transmitting side, additional information
for copyright protection to a first information signal and a
second information signal, which are associated with each
other and which are independently usable, and outputting the
first information signal and the second information signal
with the additional information; and

controlling, on a receiving side, a copyright
protection operation on at least one of the first
information signal and the second information signal based
on the additional information added to the first information
signal and the additional information added to the second
information signal.

2. A copyright protection method according to claim 1,
further comprising the steps of:

inserting, on the transmitting side, relating
information to the additional information added to the first
information signal and the additional information added to
the second information signal, said relating information for
relating the additional information added to the first
information signal to the additional information added to

the second information; and

determining, on the receiving side, whether the first information signal is related to the second information signal by checking the relating information added to the first information signal against the relating information added to the second information signal.

3. A copyright protection method according to claim 1, further comprising the steps of:

superimposing, on the transmitting side, the additional information on each of the first information signal and the second information signal as digital watermark information; and

overwriting, on the receiving side, only the additional information superimposed on the second information signal when the additional information added to the first information signal and the additional information added to the second information signal are to be updated.

4. A copyright protection method comprising the steps of:

transmitting, on a transmitting side, an information signal having first additional information by using a first channel, and also transmitting second additional information concerning the information signal by using a second channel;

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~~controlling, on a receiving side, a copyright protection operation on the information signal based on the first additional information and the second additional information.~~

an information signal processing apparatus for processing the first information signal and the second information signal output from said information signal output apparatus,

first additional-information generating means for
generating first additional information for copyright
protection to be added to the first information signal;

second additional-information generating means for
generating second additional information for copyright

second additional-information addition means for adding the second additional information generated from said second additional-information generating means to the second information signal; and

said information signal/processing apparatus
comprising:

second additional-information extraction means for extracting the second additional information from the second information signal/output from said information signal output apparatus; and

control means for controlling a copyright protection operation on at least one of the first information signal and the second information signal based on the first additional information and the second additional information extracted by said first additional-information extraction means and said second additional-

6. An information signal processing system according to claim 5, wherein said information signal output apparatus further comprises relating-information generating means for generating relating information for relating the first additional information to be added to the first information signal to the second additional information to be added to the second information signal, and

wherein, in said information signal output apparatus, said first additional-information addition means adds the relating information generated from said relating-information generating means to the first information signal, and said second additional-information addition means adds the relating information to the second information signal; and wherein, in said information signal processing apparatus, said first additional-information extraction means extracts the relating information superimposed on the first information signal from the first information signal, said second additional-information extracting means extracts the relating information superimposed on the second information signal from the second information signal, and said control means determines whether the first information signal and the second information signal are related to each other by checking the relating information extracted by said first

7. An information signal processing system according to claim 5, wherein, in said information signal output apparatus, said first additional-information addition means superimposes the first additional information generated from said first additional-information generating means on the first information signal as digital watermark information, and said second additional-information addition means superimposes the second additional information generated from said second additional-information generating means on the second information signal as digital watermark information, and wherein, in said information signal processing apparatus, said control means overwrites only the second additional information superimposed on the second information signal when the first additional information and the second additional information are to be updated.

8. An information signal processing system comprising:
an information signal output apparatus for outputting a first information signal and a second information signal, which are associated with each other; and
an information signal processing apparatus for

information signal input means for receiving the first information signal and the second information signal output from said information signal output means of said information signal output apparatus;

additional-information input means for receiving the second additional information output from said additional-information output means of said information signal output apparatus;

additional-information extraction means for extracting the first additional information added to the first information signal and the second information signal from the first and second information signal received by said information signal input means; and

control means for controlling a copyright protection operation on the first information signal and the second information signal based on the first additional information extracted by said additional-information extraction means and the second additional information received by said additional-information input means.

9. An information signal output apparatus for outputting a first information signal and a second information signal, which are associated with each other and which are independently usable, said information signal output apparatus comprising:

first additional-information generating means for generating first additional information for copyright protection to be added to the first information signal;

first additional-information addition means for adding

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the first additional information generated from said first additional-information generating means to the first information signal;

second additional-information generating means for generating second additional information for copyright protection to be added to the second information signal;

second additional-information addition means for adding the second additional information generated from said second additional-information generating means to the second information signal; and

information signal output means for outputting the first information signal having the first additional information and the second information signal having the second additional information.

10. An information signal output apparatus according to claim 9, further comprising relating-information generating means for generating relating information for relating the first additional information to be added to the first information signal to the second additional information to be added to the second information signal, wherein said first additional-information addition means adds the relating information generated from said relating-information generating means to the first information, and said second additional-information addition means adds the

relating information generated from said relating-information generating means to the second information signal.

11. An information signal output apparatus according to claim 9, wherein said first additional-information generating means generates copying control information as the first additional information, and said second additional-information generating means generates copying control information as the second additional information.

12. An information signal output apparatus according to claim 9, wherein said first additional-information addition means superimposes the first additional information generated from said first additional-information generating means on the first information signal as digital watermark information, and said second additional-information addition means superimposes the second additional information generated from said second additional-information generating means on the second information signal as digital watermark information.

13. An information signal output apparatus according to claim 12, wherein the first information signal comprises a video signal, and the second information signal comprises

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an audio signal, and, when the first information signal and the second information signal are allowed to be copied for one generation, said first additional-information generating means generates the first additional information indicating that copying is not allowed for further generations, said second additional-information generating means generates the second additional information indicating that copying is allowed for one generation, and said information signal output means outputs said first information signal having the first additional information and said second information signal having the second additional information.

14. An information signal output apparatus according to claim 9, wherein said first additional-information addition means and said second additional-information addition means add the first additional information and the second additional information, respectively, so that information for copyright protection for both the first information signal and the second information signal is distinguishable from information for copyright protection for each of the first information signal and the second information signal, separately.

15. An information signal output apparatus according to claim 9, wherein said information signal output means

records the first information signal and the second information signal on a recording medium.

16. An information signal output apparatus according to claim 9, further comprising reading means for reading the first information signal having the first additional information superimposed and the second information signal having the second additional information superimposed from a recording medium.

17. An information signal output apparatus comprising:
additional-information generating means for generating first additional information for copyright protection;

additional-information addition means for adding the first additional information generated from said additional-information generating means to an information signal;

information signal output means for outputting the information signal having the first additional information added by said additional-information addition means; and

additional-information output means for outputting second additional information for copyright protection concerning the information signal.

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a2 → 18. An information signal output apparatus according to claim 17, wherein said information signal output means

comprises an analog interface, and said additional-information output means comprises a digital interface.

19. An information signal output apparatus according to claim 17, wherein said additional-information addition means superimposes the first additional information generated from said additional-information generating means on the information signal as digital watermark information.

20. An information signal output apparatus according to claim 17, for further comprising reading means for reading the information signal having the first additional information from a recording medium.

21. An information signal processing apparatus for processing a first information signal and a second information signal, which are associated with each other and which are independently usable, having first additional information and second additional information, respectively, for copyright protection, said information signal processing apparatus comprising:

first additional-information extraction means for extracting the first additional information added to the first information signal;

second additional-information extraction means for

extracting the second additional information added to the second information signal; and

control means for controlling a copyright protection operation on at least one of the first information signal and the second information signal based on the first additional information and the second additional information extracted by said first additional-information extraction means and said second additional-information extraction means, respectively.

22. An information signal processing apparatus according to claim 21, wherein the first additional information and the second additional information contain relating information for relating the first additional information to the second additional information, said first additional-information extraction means extracts the relating information superimposed on the first information signal from the first information signal, said second additional-information extraction means extracts the relating information superimposed on the second information signal from the second information signal, and said control means determines whether the first information and the second information are related to each other by checking the relating information extracted by said first additional-information extraction means against the relating

information extracted by said second additional-information extraction means.

23. An information signal processing apparatus according to claim 21, wherein the first information signal and the second information signal contain copying control information as the first additional information and the second additional information, respectively, and said control means performs a copying control operation on at least the first information signal and the second information signal based on the copying control information of one of the first and second additional information which restricts the copying operation more tightly than the copying control operation of the other additional information.

24. An information signal processing apparatus according to claim 23, further comprising:

first signal detection means for detecting the presence or the absence of the first information signal; and

second signal detection means for detecting the presence or the absence of the second information signal,

wherein said control means performs the copying control operation on at least one of the first information signal and the second information signal based on a detection

output from said first signal detection means, a detection output from said second signal detection means, an extraction output from said first additional-information extraction means, and an extraction output from said second additional-information extraction means.

25. An information signal processing apparatus according to claim 23, wherein the first additional information and the second additional information are added to the first information signal and the second information signal, respectively, as digital watermark information, said first additional-information extraction means extracts the first additional information superimposed on the first information signal as the digital watermark information, and said second additional-information extraction means extracts the second additional information superimposed on the second information signal as the digital watermark information, said information signal processing apparatus further comprising additional-information overwriting means for overwriting only one of the first additional information and the second additional information.

26. An information signal processing apparatus according to claim 25, wherein the first information signal comprises a video signal, and the second information signal

comprises an audio signal, and said additional-information overwriting means overwrites only the second additional information superimposed on the second information signal.

27. An information signal processing apparatus according to claim 23, wherein said first additional-information extraction means extracts the first additional information superimposed on the first information signal as digital watermark information, said second additional-information extraction means extracts the second additional information superimposed on the second information signal as digital watermark information, and said control means performs the copying control operation in such a manner that the first information signal and the second information signal are allowed to be copied for one generation when the first additional information extracted by said first additional-information extraction means indicates that copying is not allowed for further generations and when the second additional information extracted by said second additional-information extraction means indicates that copying is allowed for one generation.

28. An information signal processing apparatus according to claim 27, further comprising additional-information overwriting means for overwriting only the

second additional information superimposed on the second information signal.

29. An information signal processing apparatus according to claim 21, wherein the first additional information and the second additional information are superimposed on the first information signal and the second information signal, respectively, as digital watermark information, said first additional-information extraction means extracts the first additional information superimposed on the first information signal as the digital watermark information, said second additional-information extraction means extracts the second additional information superimposed on the second information signal as the digital watermark information, and said control means performs the copyright protection operation on at least one of the first information signal and the second information signal, based on the detected additional information, when only one of the first additional information and the second additional information is detected from one of said first additional-information extraction means and said second additional-information extraction means, respectively.

30. An information signal processing apparatus according to claim 29, further comprising:

first signal detection means for detecting the presence or the absence of the first information signal;

second signal detection means for detecting the presence or the absence of the second information signal; and

signal determining means for determining whether the first additional information and the second additional information are not detected because of the absence of the first information signal and the second information signal, respectively, based on detection outputs from said first signal detection means and said second signal detection means.

31. An information signal processing apparatus according to claim 21, wherein the first additional information and the second additional information are superimposed on the first information signal and the second information signal, respectively, as digital watermark information, said first additional-information extraction means extracts the first additional information superimposed on the first information signal as the digital watermark information, said second additional-information extraction means extracts the second additional information superimposed on the second information signal as the digital watermark information, and said control means performs the

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copyright protection operation by determining that neither of the first additional information or the second additional information is detected from the first information signal and the second information signal when one of the first additional information and the second additional information is not detected from one of said first additional-information extraction means and said second additional-information extraction means, respectively, and when the other additional information is unstably detected in one of said first additional-information extraction means and said second additional-information extraction means.

32. An information signal processing apparatus according to claim 21, further comprising reading means for reading the first information signal having the first additional information and the second information signal having the second additional information from a recording medium, wherein said control means performs the copyright protection operation on the first information signal and the second information signal based on information indicating a type of recording medium on which the first information signal and the second information signal are recorded.

33. An information signal processing apparatus for transmitting an information signal having first additional

information for copyright protection and transmitting second additional information for copyright protection concerning the information signal by using different channels, and for receiving the information signal, said information signal processing apparatus comprising:

information signal input means for receiving the information signal;

additional-information input means for receiving the second additional information;

additional-information extraction means for extracting the first additional information from the information signal received by said information signal input means; and

control means for performing a copyright protection operation on the information signal based on the first additional information extracted by said additional-information extraction means and the second additional information received by said additional-information input means.

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a3 → 34. An information signal processing apparatus according to claim 33, wherein said information signal input means comprises an analog interface, and said additional-information input means comprises a digital interface.

35. An information signal processing apparatus

according to claim 33, wherein the first additional information is superimposed on the information signal as digital watermark information, and said additional-information extraction means extracts the first additional information superimposed on the information signal as the digital watermark information.

36. An information signal processing apparatus according to claim 33, wherein the first additional information added to the information signal and the second additional information comprise copying control information, and said control means performs a copying control operation on the information signal as the copyright protection operation based on the first additional information and the second additional information.

37. An information signal recording medium on which a first information signal and a second information signal, which are associated with each other, are recorded, wherein first additional information for copyright protection is added to the first information signal, second additional information for copyright protection is added to the second information signal, and relating information for relating the first information signal to the second information signal is added to the first information signal and the

second information signal.

38. An information signal recording medium according to claim 37, wherein the first additional information added to the first information signal and the second additional information added to the second information signal are used for a copying control operation.

39. An information signal recording medium according to claim 38, wherein the first additional information indicating that copying is not allowed for further generations is added to the first information signal and the second additional information indicating that copying is allowed for one generation is added to the second information signal when the first information signal and the second information signal are allowed to be copied for one generation.

40. An information signal recording medium according to claim 37, wherein at least one of the first additional information and the second additional information includes information for copyright protection for both the first information signal and the second information signal and information for copyright protection for each of the first information signal and the second information signal,

41. An information signal recording medium according to claim 37, wherein the first additional information and the second additional information added to the first information signal and the second information signal, respectively, comprise digital watermark information formed by using a digital watermark technique, and the first information signal and the second information signal having the digital watermark information superimposed are recorded.

a first additional-information generating step of generating first additional information for copyright protection to be added to the first information signal;

a second additional-information generating step of generating second additional information for copyright

protection to be added to the second information signal;

a second additional-information addition step of adding the second additional information generated in said second additional-information generating step to the second information signal; and

an outputting step of outputting the first information signal having the first additional information and the second information signal having the second additional information.

43. An information signal output method comprising:

an additional-information generating step of generating first additional information for copyright protection;

an additional-information addition step of adding the first additional information generated in said additional-information generating step to an information signal; and

an outputting step of outputting the information signal having the first additional information added in said additional-information addition step and outputting second additional information for copyright protection concerning the information signal.

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24 → 44. An information signal processing method for processing a first information signal and a second information signal, which are associated with each other and

which are independently usable, having first additional information and second additional information for copyright protection, said information signal processing method comprising:

a first additional-information extraction step of extracting the first additional information added to the first information signal;

a second additional-information extraction step of extracting the second additional information added to the second information signal; and

a controlling step of controlling a copyright protection operation on at least one of the first information signal and the second information signal based on the first additional information and the second additional information extracted in said first additional-information extraction step and said second additional-information extraction step, respectively.

45. An information signal receiving method for transmitting an information signal having first additional information for copyright protection and transmitting second additional information for copyright protection concerning the information signal by using different channels, and for processing the information signal, said information signal receiving method comprising:

a controlling step of controlling a copyright protection operation on the information signal based on the first additional information extracted in said extraction step and the second additional information received in said second-additional-information receiving step.